

The epidemiology of HIV in Canada

This fact sheet provides a snapshot of the HIV epidemic in Canada. All epidemiological information is approximate, based on the best available data. Most of the data contained in this fact sheet come from the latest estimates from the Public Health Agency of Canada, which are for the year 2018. More information can be found in the section “Where do these numbers come from?” at the end of the fact sheet.

What is HIV?

HIV stands for human immunodeficiency virus. HIV is a virus that can weaken the immune system, the body’s built-in defence against disease and illness. With proper treatment and care, people with HIV can live long and healthy lives and avoid passing HIV to others. There is no vaccine to prevent HIV but there are ways to avoid passing or getting HIV.

What statistics are available in Canada to inform programming?

There are two main types of numbers available, HIV estimates and HIV surveillance data (reported HIV diagnoses).

HIV estimates are developed by the Public Health Agency of Canada through statistical modelling, using a variety of data sources. There are two main types of estimates:

- *Prevalence* estimates tell us how many people are living with HIV at a given point in time. They include estimates for the number of people who are undiagnosed and take into account the number of people with HIV who have died.
- *Incidence* estimates tell us how many people got HIV in a given year, including those who had not yet been diagnosed.

HIV surveillance data are published by the Public Health Agency of Canada and tell us how many people were diagnosed with HIV in a given year. This information does not tell us when they got HIV, just when the diagnosis was made. People may have had HIV for many years before diagnosis.

FACT SHEET

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How many people are living with HIV in Canada (prevalence)?

According to national HIV estimates, there were an estimated 62,050 Canadians living with HIV at the end of 2018. This means that for every 100,000 Canadians, 167 were living with HIV (prevalence rate).

How many people are living with HIV but don't know it (undiagnosed) in Canada?

According to national HIV estimates, 8,300 people were living with HIV but didn't know it (undiagnosed) at the end of 2018. This represents 13% of the estimated number of people with HIV.

How many new HIV infections are there in Canada each year (incidence)?

According to national HIV estimates, there were 2,242 new HIV infections in Canada in 2018. This means that for every 100,000 Canadians, six people became HIV positive in 2018 (incidence rate of 6 per 100,000 people).

There was a small increase in the number of new HIV infections in 2018 compared with 2016, when there were an estimated 2,165 new HIV infections.

Is Canada reaching the global 90-90-90 targets?

The Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) have established a global health sector strategy on HIV to help eliminate AIDS as a public health threat by 2030. Canada has endorsed this strategy. The strategy can be encapsulated in the phrase "90-90-90" and consists of the following targets for the year 2020:

- 90% of people with HIV know their infection status
- 90% of people diagnosed with HIV receive HIV treatment

- 90% of people taking treatment have an undetectable viral load

Canada is approaching the 90% goal for awareness of HIV status and the 90% goal for treatment and has surpassed the 90% goal for achieving viral suppression. Of the estimated 62,050 people with HIV in Canada in 2018, an estimated:

- 87% were diagnosed and aware they had HIV (53,750 people)
- 85% of those who were diagnosed were on treatment (45,910 people)
- 94% of those on treatment had achieved viral suppression (43,350 people)

This means that 70% of all Canadians with HIV had achieved viral suppression in 2018. If all 90-90-90 measures had been reached, 73% of all Canadians with HIV would have achieved viral suppression.

HIV among gbMSM

How many gay, bisexual and other men who have sex with men (gbMSM) are living with HIV in Canada (prevalence)?

According to national HIV estimates, 32,044 gbMSM were living with HIV in Canada in 2018. This represents 51.7% of all people with HIV in Canada. The estimate included 30,316 men who had sex with men and 1,728 men who had both injected drugs and had sex with men.

How many new HIV infections (incidence) are there in gbMSM in Canada each year?

According to national HIV estimates, 1,169 new HIV infections in Canada were in gbMSM in 2018. This represents 52.2% of all new HIV infections. This estimate included 1,109 new HIV infections in men who had sex with men and 60 new infections in men who had both injected drugs and had sex with men.

GbMSM are over-represented in new HIV infections in Canada. They represent 52.2% of all new HIV infections but only represent 3 to 4% of the adult male population in Canada.

How is Canada doing at reaching the global targets of 90-90-90 for gbMSM?

According to several surveillance studies conducted with gbMSM in Canada in 2017–18:

- 96.7% of gbMSM with HIV were aware of their status in 2017–18
- between 96.8% and 99.1% of gbMSM diagnosed with HIV were on treatment in 2017–18*
- between 93.7% and 96.7% of gbMSM on HIV treatment reported an undetectable viral load in 2017–18*

* There is a range because there are multiple surveillance studies providing different estimates.

HIV among PWID

How many people who inject drugs (PWID) are living with HIV in Canada (prevalence)?

According to national HIV estimates, 10,418 people who have injected drugs (PWID) were living with HIV in Canada in 2018. This represents 16.8% of all people with HIV in Canada. The estimate included 8,690 people who had injected drugs and 1,728 men who had both injected drugs and had sex with men.

How many new HIV infections (incidence) are there in PWID in Canada each year?

According to national HIV estimates, 372 new HIV infections in Canada were in PWID in 2018. This represents 16.6% of all new HIV infections. This estimate included 312 new HIV infections in people who had injected drugs and 60 new infections in men who had both injected drugs and had sex with men.

How is Canada doing at reaching the global targets of 90-90-90 for PWID?

According to a surveillance study conducted with people who inject drugs (PWID) in Canada between 2017 and 2019:

- 82.9% of PWID with HIV were aware of their status in 2017–2019
- 87.7% of PWID diagnosed with HIV were on treatment in 2017–2019
- 62.8% of PWID on HIV treatment reported an undetectable viral load in 2017–2019

HIV among people who acquire HIV through heterosexual sex

How many people living with HIV in Canada acquired HIV through heterosexual sex?

According to national HIV estimates, 20,750 people living with HIV in Canada acquired HIV through heterosexual sex in 2018. This represents 33.4% of all people with HIV in Canada.

In 2016, the Public Health Agency of Canada separated heterosexual transmission into two categories – those born in an HIV-endemic country (primarily subSaharan Africa and the Caribbean) and those born in a non HIV-endemic country (those born in Canada or those born abroad but not from an HIV-endemic country). According to the Public Health Agency of Canada “This separation is no longer considered appropriate, for reasons of increasing data incompleteness. The Public Health Agency of Canada is working with communities and with provinces and territories to find ways to better reflect the HIV situation in these communities.”

The 2016 estimates that separate heterosexual transmission into these two categories can be found in the Summary: Estimates of HIV incidence, prevalence and Canada’s progress on meeting the 90-90-90 HIV targets, 2016.

How many new HIV infections (incidence) are acquired through heterosexual sex in Canada each year?

According to national HIV estimates, 761 new HIV infections in Canada were acquired through heterosexual sex in Canada in 2018. This represents 34.0% of all new HIV infections.

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HIV among Indigenous people

How many Indigenous people are living with HIV in Canada (prevalence)?

According to national HIV estimates, 6,180 Indigenous people were living with HIV in Canada in 2018. This represents 10.0% of all people with HIV in Canada.

How many new infections (incidence) are there in Indigenous people in Canada each year?

According to national HIV estimates, 314 new HIV infections in Canada were in Indigenous people in 2018. This represents 14.0% of all new infections. In comparison, Indigenous people made up only 4.9% of the total Canadian population in 2016, making Indigenous people over-represented in new HIV infections in Canada.

How is Canada doing at reaching the global targets of 90-90-90 for Indigenous people who inject drugs?

According to a surveillance study conducted with Indigenous people who inject drugs (PWID) in Canada between 2017 and 2019:

- 78.2% of Indigenous PWID with HIV were aware of their status in 2017–2019
- 83.7% of Indigenous PWID diagnosed with HIV were on treatment in 2017–2019
- 64.4% of Indigenous PWID on HIV treatment reported an undetectable viral load in 2017–2019

HIV among females

How many females are living with HIV in Canada (prevalence)?

According to national HIV estimates, 14,545 females were living with HIV in Canada in 2018. This represents 23.4% of all people with HIV in Canada.

How many new infections (incidence) are there in females in Canada each year?

According to national HIV estimates, 566 new HIV infections in Canada were in females in 2018. This represents 25.2% of all new infections.

HIV diagnoses in Canada

How many people are newly diagnosed with HIV in Canada each year?

There were 2,122 HIV diagnoses in Canada in 2019. This represents a 4% increase over the past 5 years (since 2014).

Among new HIV diagnoses in 2019 where sex was known (2,188), 30.2% were in females and 69.8% were in males.

Among the HIV diagnoses in adults where the likely exposure is known (1,203 diagnoses), 39.7% were in gbMSM, 28.3% were from heterosexual sex and 21.5% were in PWID in 2019.

Among females, 38.4% of HIV diagnoses were in women who injected drugs and 48.0% were from heterosexual sex in 2019.

Among males, 56.2% were in gbMSM, 4.8% were among gbMSM who also injected drugs, 14.6% were in men who injected drugs and 20.0% were from heterosexual sex in 2019.

Just over a quarter (27.0%) of all HIV diagnoses in males were in male youth (aged 15 to 29) in 2019. Just under a quarter (23.4%) of all HIV diagnoses in females were in female youth (aged 15 to 29) in 2019.

Where are HIV diagnoses rates the highest?

There are four provinces with HIV diagnoses rates above the national average of 5.6 per 100,000 people in 2019:

- Saskatchewan (16.9 for every 100,000 people)
- Manitoba (8.8)
- Quebec (7.4)
- Alberta (5.8)

The remaining regions have diagnoses rates below the national average:

- Ontario (4.7)
- British Columbia (3.5)
- the Atlantic provinces (3.0)
- the territories (1.7)

How many people test positive during the immigration process to Canada each year?

- A total of 1,188 people tested positive during the immigration process to Canada (626 tested in Canada and 562 tested outside of Canada) in 2019.

How many babies are born to HIV-positive females in Canada each year?

There were 250 babies born to mothers with HIV in 2019. Only one of these infants was confirmed HIV positive. The mother did not receive HIV treatment

during her pregnancy. In total, 98% of HIV-positive pregnant females received HIV treatment in 2019, which significantly reduces the risk of HIV transmission.

Key definitions

HIV prevalence—The number of people with HIV at a point in time. Prevalence tells us how many people have HIV.

HIV incidence—The number of new HIV infections in a defined period of time (usually one year). Incidence tells us how many people are getting HIV.

HIV diagnoses—The number of new HIV diagnoses in a defined period of time (usually one year). HIV diagnoses tell us how many people have been diagnosed within a certain time frame.

Where do these numbers come from?

Most of the data contained in this fact sheet come from *HIV in Canada: 2019 Surveillance Highlights; Summary: Estimates of HIV incidence, prevalence and Canada's Progress on Meeting the 90-90-90 HIV target, 2018*; and population-specific surveillance data.

HIV diagnoses (routine HIV reporting)

Healthcare providers are required to report HIV diagnoses to their local public health authorities, including diagnoses resulting from anonymous tests. Each province and territory then compiles this information and provides it to the Public Health Agency of Canada. This information does not contain names or personal identifiers. Sometimes additional information is also collected and sent to the Public Health Agency of Canada, such as information about a person's age, gender, ethnicity, exposure category (the way the person may have acquired HIV) and laboratory data such as the date of the HIV test.

National estimates of HIV prevalence and incidence

National HIV estimates are produced by the Public Health Agency of Canada using statistical modelling

that takes into account some of the limitations of surveillance data (the number of HIV diagnoses reported to the Public Health Agency of Canada) and also accounts for the number of people with HIV who do not yet know they have it and the number of people with HIV who have died.

Population-specific surveillance

Several national surveillance studies monitor trends in key priority populations through periodic cross-sectional surveys conducted at selected sites in Canada. Because these systems only recruit voluntary participants and are conducted only in certain locations, the results do not represent all people who belong to each population in Canada.

I-Track is the national surveillance system of people who inject drugs conducted by the Public Health Agency of Canada. Through this surveillance system, anonymous information is collected directly from PWID, using a questionnaire and a biological specimen sample for HIV and hepatitis C testing. This cross-sectional survey was administered at selected sites (typically needle and syringe programs) across Canada from 2017 to 2019.

The European Men-who-have-sex-with-men Internet Survey (EMIS) is an international surveillance system of gbMSM. Through this surveillance system, information is collected anonymously directly from gbMSM using a cross-sectional survey. The survey was undertaken in 2017 across 50 countries including Canada. Recruitment was conducted through advertisements and banners on social media, gay news websites and sexual networking apps. In addition, promotion occurred through community-based organizations. Data used in this fact sheet pertain to Canadian respondents only.

Engage is a national surveillance system of gbMSM in three Canadian cities: Vancouver, Toronto and Montreal. Through this surveillance system, information is collected anonymously directly from gbMSM using a questionnaire and a biological specimen sample for HIV and hepatitis C testing. The Engage study used a form of chain referral sampling where additional participants were recruited by people who had already participated

in the study. Data used in this fact sheet pertain to data from Montreal collected in 2017–2018.

Sex Now is a national surveillance system of gbMSM across Canada. Participants are recruited online and at in-person events across Canada. Through this surveillance system, information is collected anonymously directly from gbMSM using a questionnaire and biological specimen sample for testing. Data used in this fact sheet pertain to data collected in 2018.

Canadian Perinatal HIV Surveillance Program

The Canadian Perinatal HIV Surveillance Program collects information on infants born to females with HIV in Canada.

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Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

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